

U.S. National Stage

Amendments to the Specification:

On page 1, prior to the first paragraph which begins on line 4, please insert the following:

FIELD OF THE INVENTION

On page 1, prior to the second paragraph which begins on line 7, please insert the following:

BACKGROUND OF THE INVENTION

On page 3, prior to the paragraph which begins on line 29, please insert the following:

SUMMARY OF THE INVENTION

On page 5, prior to the paragraph which begins on line 27, please insert the following:

BRIEF DESCRIPTION OF THE DRAWINGS

On page 6, prior to the paragraph which begins on line 8, please insert the following:

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please replace the paragraph which begins on page 7, line 15 and ends on line 28, with the following rewritten paragraph:

If the following variables are known at least approximately, then the desired variable, which, according to the invention, is specified at the beginning to the position and status indicating unit, can be calculated. Such variables are, in particular, as follows:

U.S. National Stage

- the distance d_s between an ultrasonic transducer 2; 3 and the pipe wall 10;
- the thickness d_r of the pipe wall 10;
- the inner diameter d_i of the pipe 7;
- the velocity of sound c_s in the lead-in member 6; 7;
- the velocity of sound c_r in the pipe 7;
- the velocity of sound c_m in the medium 9;
- the angle $[\alpha_s]$ α_s in the ultrasonic transducers 2; 3;
- the angle $[\alpha_r]$ α_r in the pipe 7;
- the angle $[\alpha_m]$ α_m in the medium; and
- the number n of traverses. In the illustrated case, $n = 2$.

Please replace the paragraph which begins on page 7, line 30 and ends on page 8, line 11, with the following rewritten paragraph:

The angle of incidence $[\alpha_r]$ α_r in the pipe 7 can be represented with the aid of Snell's law by the following formula:

$$\left[\alpha_r = \text{asin}\left(\frac{c_r}{c_s} \cdot \sin(\alpha_s)\right) \right] \quad \underline{\alpha_r = \text{asin}\left(\frac{c_r}{c_s} \cdot \sin(\alpha_s)\right)}$$

The incoming angle $[\alpha_m]$ α_m into the medium 9 can be described by the following formula:

$$\left[\alpha_m = \text{asin}\left(\frac{c_m}{c_s} \cdot \sin(\alpha_s)\right) \right] \quad \underline{\alpha_m = \text{asin}\left(\frac{c_m}{c_s} \cdot \sin(\alpha_s)\right)}$$

The travel time T_{desired} of the ultrasonic measuring signals on the sound path SP can then be calculated on the basis of the following formula:

U.S. National Stage

$$\left[Tsoll = \frac{2 \cdot ds}{\cos(as) \cdot cs} + \frac{2 \cdot dr}{\cos(ar) \cdot cr} + \frac{n \cdot di}{\cos(am) \cdot cm} \right]$$

$$Tsoll = \frac{2 \cdot ds}{\cos(\alpha s) \cdot cs} + \frac{2 \cdot dr}{\cos(\alpha r) \cdot cr} + \frac{n \cdot di}{\cos(\alpha m) \cdot cm}$$

Please delete page 11 in its entirety.